

**AMENDMENTS TO THE DRAWINGS**

Submitted herewith please find three (3) sheets (for FIGS. 3A-3C) of replacement drawings in compliance with 37 C.F.R. § 1.84. The Examiner is respectfully requested to acknowledge receipt of these drawings.

Attachment: Replacement Sheets: Three (3)

**REMARKS**

Claims 1-10, 12-19, 21, and 22 are all the claims pending in the application. By this Amendment, Applicants amend the claims to better conform them to U.S. patent practice. Claims 11 and 20 have been canceled without prejudice or disclaimer. New claims 21 and 22 have been added.

***Allowable Subject Matter***

Applicants thank the Examiner for indicating that claims 4 and 13 recite allowable subject matter, and would be allowable if rewritten in independent form<sup>1</sup>. However, Applicants respectfully request that the Examiner hold in abeyance such rewriting until the Examiner has had an opportunity to reconsider and withdraw the prior art rejection of the other claims, as discussed below in further detail below.

***Drawings Objection***

FIGS. 3A-3C are objected to due to various informalities. Attached to this Amendment are replacement drawing sheets for FIGS. 3A-3C. In view of the replacement sheets, Applicants respectfully request the Examiner to withdraw the drawings objection.

***Specification Objection***

It is alleged in the Office Action that the Abstract (i) exceeds 150 words and (ii) refers to the purported merits of the invention. Regarding informality (i), Applicants submit that the Abstract, as filed, does not exceed 150 words. With respect to informality (ii), Applicants amend

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<sup>1</sup> Regarding claim 4, the Examiner further notes that the 35 U.S.C. § 112, first paragraph rejection also needs be overcome (Office Action, page 8, paragraph 24).

the Abstract by this Amendment. Accordingly, Applicants respectfully request withdrawal of this objection.

***Claim Rejections – 35 U.S.C. § 112***

Claims 1 and 3-11 are rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement<sup>2</sup>. In particular, the Examiner alleges that although the claim states that “pulse wave propagation through an intracerebral blood vessel is detected on the basis of a change in the diameter of an eyeground vein...the disclosure provides no equation or algorithm to show how the two variables may be related...The examiner notes that the change in eyeground vein diameter directly reflects the pulse wave propagation, in which case no equation/algorithm may be necessary. If so, however, any device which can detect the change of said vein diameter would inherently detect the pulse wave propagation through said intracerebral blood vessel” (Office Action, page 4, paragraph 9). Applicants respectfully disagree.

In order to expedite prosecution, however, Applicants amend claim 1 by this Amendment. In view of the amendment to claim 1, and further in view of the Applicants’ remarks submitted below with respect to the prior art rejection, Applicants respectfully submit that claims 1 and 3-11 comply with the requirements of 35 U.S.C. § 112.

***35 U.S.C. § 101***

Claims 10, 11, 19, and 20 are rejected under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter. In view of the amendments to claims 10 and 19, Applicants

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<sup>2</sup> Although the Examiner lists claim 2 in the statement of rejection, the claim did not depend from claim 1 prior to this Amendment as the Examiner incorrectly asserts in paragraph 9 on page 4 of the Office Action.

respectfully submit that the claims comply with the requirements of 35 U.S.C. § 101. Further, since claims 11 and 20 have been canceled, the rejection thereto is rendered moot.

***Claim Rejections – 35 U.S.C. § 102***

Claims 1-3, 5-12, and 14-20 are rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Vilser (U.S. Patent No. 6,621,917). For *at least* the following reasons, Applicants respectfully traverse the rejection.

In order to expedite prosecution, Applicants amend claim 1 as noted above. Applicants respectfully submit that amended claim 1 is not anticipated by Vilser. For example, claim 1 relates to a pulse wave propagation detection system. The pulse wave propagation detection system comprises, *inter alia*, electrocardiographic signal detection means for detecting an electrocardiographic signal, and eyeground image detection means for detecting an eyeground image in synchronization with each of at least two different points of the electrocardiographic signal detected by the electrocardiographic signal detection means. The eyeground image detection means further detects pulse wave propagation in an intracerebral blood vessel on the basis of a change in a diameter of an eyeground vein, the diameter being measured at target sites of the eyeground image synchronized with each of the at least two different points of the detected electrocardiographic signal. Applicants respectfully submit that the amendments render the claims clearly distinguishable over Vilser.

Furthermore, Applicants respectfully submit that Vilser's technique does not lay weight on the subject detected by the system, but lays weight on the mechanical construction of the system itself and the effect. In particular, Vilser's technique may detect a diameter of an eyeground vein, but the subject of the detection is a vessel diameter of an eyeground (including an artery and a vein) (e.g., last half of Vilser's claim 1). Vilser does not disclose or suggest that

the change of a diameter of an eyeground vein (in claim 1, e.g., the kind of an eyeground vessel is explicitly set forth) associated with pulsating is precisely evaluated to detect pulse wave propagation of a blood vessel in the brain (i.e., the “intracerebral blood vessel” in claim 1) or to detect a state of sclerosis of a capillary artery (e.g., see claim 2). That is, the subject of detection disclosed in Vilser is merely pulsation related to an artery, or direct index for blood pressure (the Bayliss effect, Meyer waves, vasomotions, vessel changes related to location, pO<sub>2</sub>- and pCO<sub>2</sub>-changes: see col. 3, lines 4 to 6 of Vilser). Vilser, however, does not disclose or suggest detecting pulse wave propagation in a blood vessel in the brain (aforementioned “intracerebral blood vessel” of claim 1) or detection of sclerosis of a capillary artery (claim 2), inclusive of any steps of the detections.

In view of the foregoing, Applicants respectfully submit that Vilser cannot anticipate claim 1.

Claims 2-10 and 12-19 are patentable *at least* by virtue of their dependency.

### ***New Claims***

New claims 21 and 22 are patentable *at least* by virtue of their dependency, and further by virtue of the additional features recited therein.

### ***Conclusion***

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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